

# **Managing Tuberculosis**

## **A Manual for Medical Practitioners**

Produced by

**ACT**

***Advocacy for Control of Tuberculosis***

with Technical Assistance from  
Tuberculosis Research Centre  
Chennai

***Community Health Cell***

**Library and Information Centre**

# 367, "Srinivasa Nilaya"

Jakkasandra 1st Main,

1st Block, Koramangala,

BANGALORE - 560 034.

Phone : 553 15 18 / 552 53 72

e-mail : [chc@sochara.org](mailto:chc@sochara.org)

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**Advocacy for Control of Tuberculosis**

J-42, II Main Road,  
Annanagar, Chennai - 600 102.  
Phone : 620 1154

**Tuberculosis Research Centre**

Mayor. V.R. Ramanathan Road,  
Chennai - 600 031.

Phone : 826 5427, 826 5425

## For the Physician

**T**uberculosis continues to be a major health problem despite the availability of powerful drugs and efficient regimens for its treatment. Recently, Directly Observed Treatment Short course (DOTS) has been advocated as means of controlling this dreaded disease.

**D**OTS is a simple, effective way of ensuring that your patient receives the treatment in a closely supervised manner with regular follow-up and monitoring. This methodology ensures a cure rate as high as 85%.

**S**uccessful implementation of DOTS, however, rests solely in your hands, since you, as the primary physician know your patient best and what can benefit him the most.

**U**sing DOTS is an example of good practice, more than anything else, where all physicians follow a common, protocol based, well documented approach.

**Y**ou will not only achieve the best for your patient, but you will also contribute greatly to the community by reducing risks of drug resistance.

**T**his manual is a step by step guide to implementing the DOTS strategy for managing your patients with tuberculosis. It has been designed by the Tuberculosis Research Centre, Chennai, specifically for the busy general practitioner, based on the guidelines given by the Revised National Tuberculosis Control Programme (RNTCP) of the Government of India.

**A**dvocacy for Control of Tuberculosis (ACT) is bringing this manual to you in the hope that it will assist you in managing your patients, and also you will become part of a growing network of people involved in healthcare who have joined hands to fight tuberculosis.





## **Tuberculosis: Profile of a Killer Disease**

- ❖ There are 14 million cases of TB in India, about a quarter of whom are infectious.
- ❖ One sputum positive patient can infect 10-15 people in a year.
- ❖ TB kills 500,000 patients every year i.e. one patient dies of TB every minute.
- ❖ TB is curable and almost all TB deaths are preventable.
- ❖ In 1993 the World Health Organisation declared TB a Global Emergency.





## What is DOTS?

- ❖ DOTS (Directly Observed Treatment Short course) is a strategy for the control of TB.
- ❖ DOTS is based on research done in India over the past 40 years.
- ❖ DOTS combines 5 elements - microscopy services, drug supplies, monitoring systems, direct observation of treatment and political - social commitment.
- ❖ DOTS ensures that patients take medicines regularly until they are cured. During the initial intensive phase, the DOTS provider watches as the patient swallows the drugs in his/her presence.  
Sputum microscopy is done at defined intervals to monitor patient's progress to cure.
- ❖ **The key to the success of DOTS strategy is that it places the responsibility for curing TB patients on the health workers - not the patients.**



## Components of DOTS

- ❖ Using sputum microscopy as the basic tool for diagnosis and monitoring of treatment.
- ❖ Ensuring regular and uninterrupted supply of drugs.
- ❖ Short course chemotherapy under direct observation of treatment.
- ❖ Systematic evaluation and monitoring of cure for every patient.
- ❖ Ensuring political commitment.





## How you can help in controlling TB

- ❖ Identify patients with TB early by carefully screening Chest Symptomatics.
- ❖ Diagnose TB using Smear Microscopy (primarily).
- ❖ Avoid depending on Chest X-rays for diagnosis.
- ❖ Choose the correct treatment schedule for your patients.
- ❖ Identify a DOTS provider for each of your patients.
- ❖ Insist on completion of treatment.
- ❖ Motivate your patient to achieve "Cure".



## How to identify a Chest Symptomatic

**If your patient presents with-**

- Cough for more than 3 weeks
- with or without
  - sputum
  - fever
  - chest pain
  - weight loss
  - hemoptysis

**ORDER SPUTUM EXAMINATION**





## Sputum Smear Microscopy

**Bacteriological examination of Sputum is the only way to confirm pulmonary TB**

1. Direct your patient to a laboratory which has technicians trained in Sputum Microscopy.
2. Emphasise the need to give 3 consecutive samples.
3. Fill up the lab requisition form and give it to your patient.
4. Check with the lab if patient does not report back and inform ACT.



## Sputum Examination

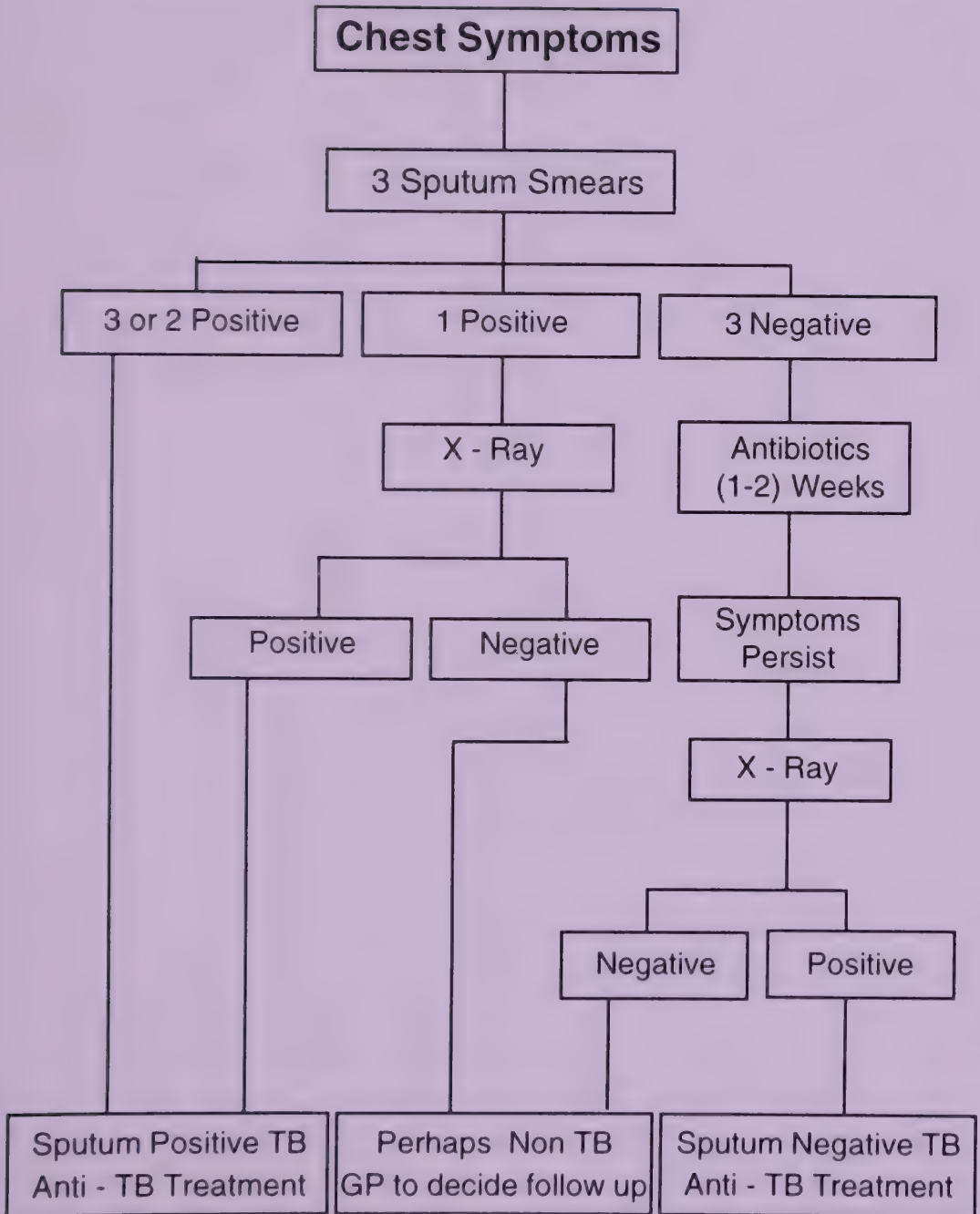
### **Instruct your patients**

- (a) To collect sputum in containers given from the laboratory only.
- (b) To retain laboratory form till all the 3 sputum tests are done.
- (c) To report back to the doctor with result.





# Evaluate Sputum Results





## Categorisation of Patient with Tuberculosis

CATEGORY	CASE DEFINITION	TREATMENT PHASE	
		INITIAL	CONTINUATION
<b>I</b>	New smear pos PTB New severe smear neg PTB New severe extra PTB	2 EHRZ Thrice weekly	4HR Thrice weekly
<b>II</b>	Sputum smear positive relapse; treatment failure; treatment after interruption	2 EHRZS/ 1EHRZ Thrice weekly	5HRE Thrice weekly
<b>III</b>	New smear neg PTB New extra PTB	2 HRZ Thrice weekly	4HR Thrice weekly
<p>E- ethambutol, H- isoniazid, R- rifampicin, Z- pyrazinamide, S- streptomycin</p> <p>Number preceding regimens indicates number of months</p>			





## Dosage

DRUG	DOSE (Thrice weekly)
Isoniazid	600 mg.
Rifampicin	450 mg.*
Pyrazinamide	1500 mg.
Ethambutol	1200 mg.
Streptomycin	750 mg.**

**\*\* Patients over 50 years of age and patients who weigh less than 30 kg. are given 0.5 gm. of Streptomycin**

**\* Patients weighing more than 60 kgs. at the start of treatment should be given an extra 150 mg. capsule of Rifampicin**



## Starting treatment

### Before you start treatment

- ❖ Inform ACT that the patient is ready for treatment and which category is to be given
- ❖ ACT will give you the treatment kit  
This will contain
  - Drugs according to category for Phase I and Phase II
  - Patient ID/Treatment Card
  - Patient's Diary
  - Information for the patient
  - Instructions to the DOTS provider
  - Lab forms for follow up smear exams



## Motivating your patient

Motivate your patient for DOTS and identify a DOTS provider in consultation with the patient and decide the venue and days of treatment.

You need to be convinced yourself of the need for DOTS in order to motivate your patient and answer his or her questions.

### WHY DO YOU NEED TO OBSERVE TREATMENT ?

- ❖ Few people, on their own can be relied upon to take all their medicines properly and for the correct period of time.
- ❖ It is only natural for people to discontinue treatment the moment they start feeling better.
- ❖ It is well documented that education, economic or social status has no effect on compliance. Education or economic status of the patient does not guarantee successful completion of treatment, so, every patient needs to be supervised to complete treatment.

DOTS produces the highest "cure" rates - as high as 85%

TB programmes not using DOTS - "cures" only 40%

DOTS quickly makes your patient non-infectious.





## Who will be the DOTS provider for your patient?

As a private practitioner, you have the advantage of knowing about your patient's background and social situation.

While identifying a DOTS provider for your patient, look for

- COMPETENCE - to give the drugs correctly
- CONCERN - to keep the patient motivated
- COMMITMENT - to ensure that treatment is completed
- CONVENIENCE - to be easily accessible to the patient and to the doctor

The DOTS provider should watch and record the patient swallowing each dose of medicine for at least the first 2 months of treatment

The DOTS provider could be

- ❖ You, the physician
- ❖ The Clinic Staff, Nurses, Paramedics
- ❖ A colleague at work
- ❖ A teacher at school or college
- ❖ A community health worker
- ❖ A responsible relative



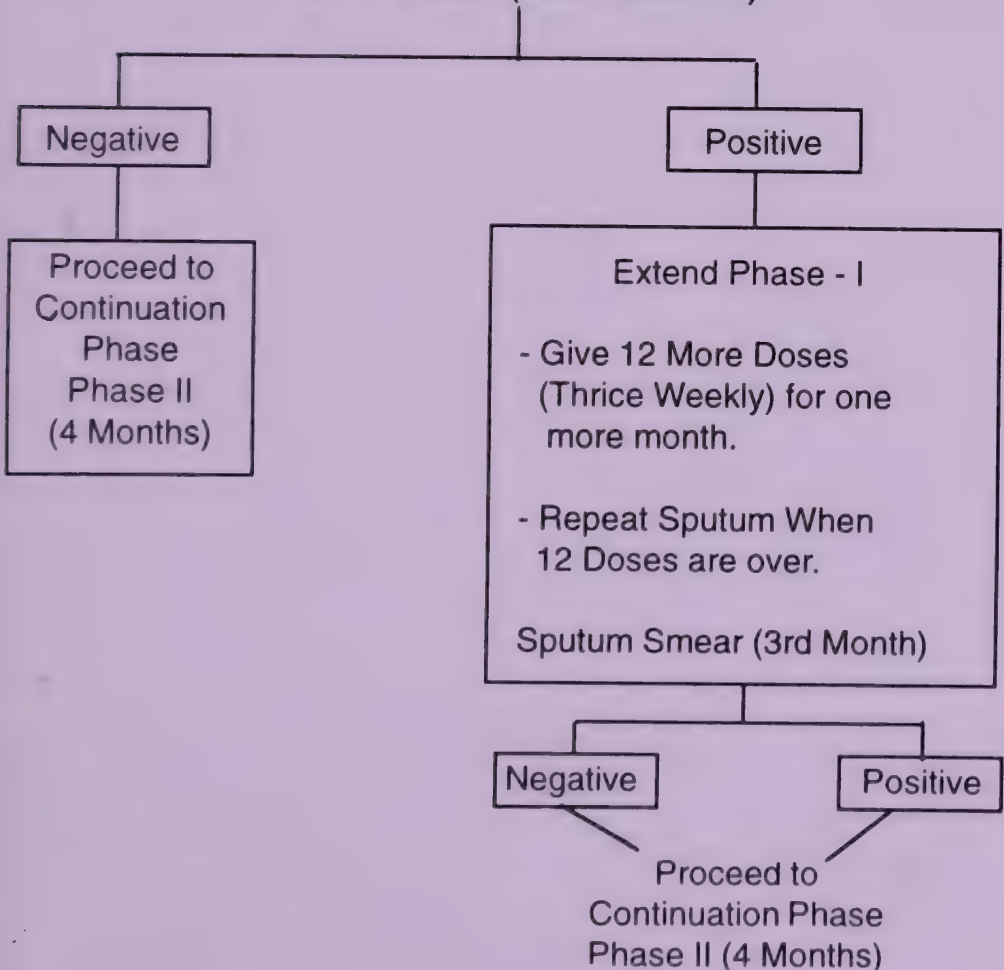
## Monitoring treatment

### CATEGORY - I

#### PHASE I - INTENSIVE PHASE (Thrice Weekly - Alternate Days) Total - 24 Doses

Repeat Sputum Smears at the end of 24 Doses

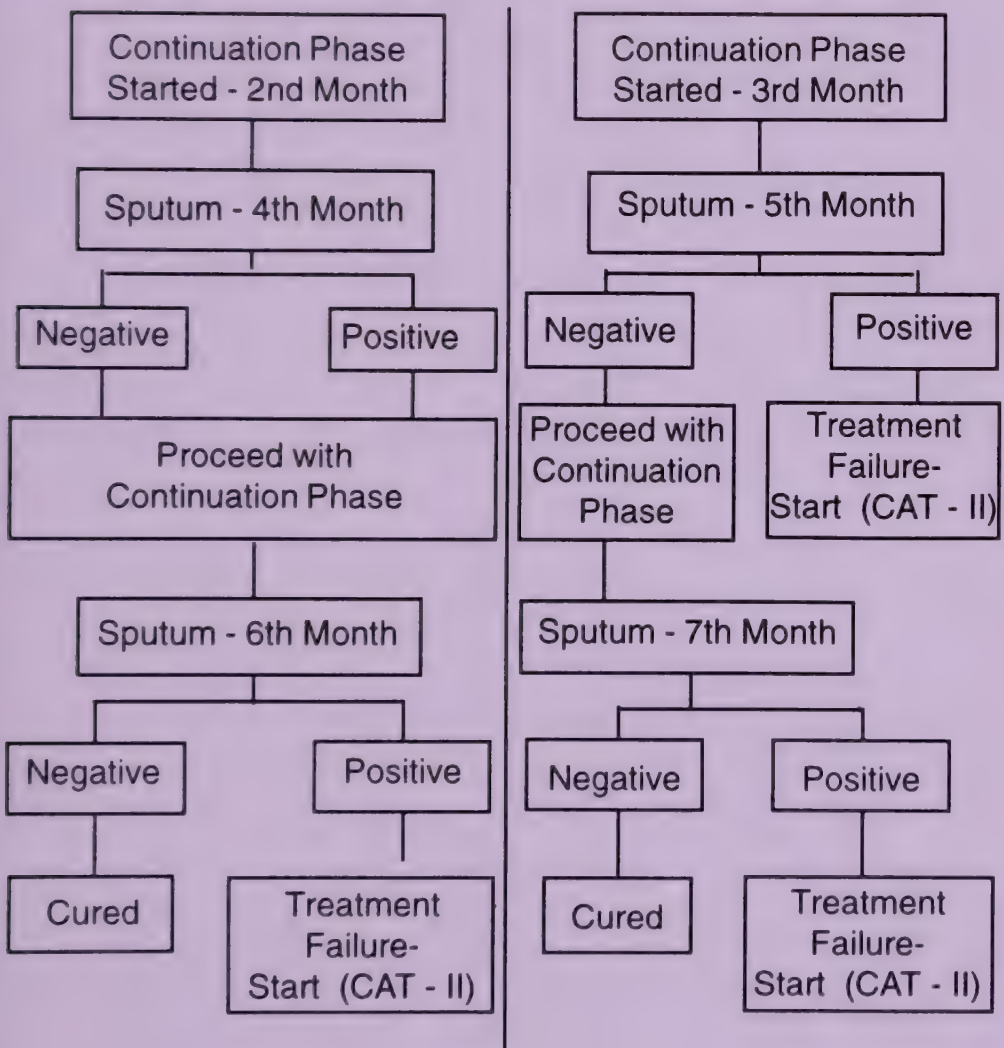
SFUTUM (2nd Month)





## CATEGORY - I

### PHASE II - CONTINUATION PHASE







### **Note:**

- ❖ Inform ACT and collect 12 more doses if you need at the end of phase I
- ❖ Inform both ACT and the DOTS provider of change in treatment
- ❖ Review your patient once a month

### **During each visit**

1. Examine patient for any complaints during treatment
2. Treat any drug reactions in consultation with TRC if necessary
3. Keep your patient motivated

### **At the end of treatment**

- Ask your patient / DOTS provider to return the treatment boxes which will be collected by ACT.
- Classify your patient as cured / defaulted / failed
- Contact ACT / TRC for help in classification



## Adverse drug reactions

### POSSIBLE SIDE-EFFECTS OF ANTI-TUBERCULOSIS DRUGS

Symptom	Drug (abbreviation)	Action to be taken
Drowsiness	Isoniazid (H)	Reassure patient
Red-orange urine/tears	Rifampicin (R)	Reassure patient
Gastrointestinal upset	Any oral medication	Reassure patient Give drugs with less water Give drugs over a longer period of time (e.g.. 20 minutes) Do not give drugs on empty stomach If the above fails, give anti-emetic if appropriate
Burning in the hands and feet	Isoniazid (H)	Give pyridoxine 100 mg/day until symptoms subside
Joint pains	Pyrazinamide (Z)	If severe, refer patient for evaluation
Impaired vision	Ethambutol (E)	STOP ethambutol, refer patient for evaluation
Ringing in the ears	Streptomycin (S)	STOP streptomycin, refer patient for evaluation
Loss of hearing	Streptomycin (S)	STOP streptomycin, refer patient for evaluation
Dizziness and loss of balance	Streptomycin (S)	STOP streptomycin, refer patient for evaluation
Jaundice	Isoniazid (H)) Rifampicin (R) Pyrazinamide (Z)	STOP streptomycin, refer patient for evaluation

**In all cases of jaundice, anti-tuberculosis drugs should be stopped immediately and the patient referred for evaluation**



## Information for the DOTS provider

### **If you are the DOTS provider**

1. Make the patient swallow the drugs in your presence
2. Make entries in the patients treatment attendance card
3. Make entries in the patient diary of dates attended against dates due
4. Inform ACT when patient defaults for 2 consecutive doses
5. Direct the patient for follow up sputum exam





## Tell your patients

- ❖ TB can be fully cured by drugs if regular and complete treatment is taken.
- ❖ Irregular treatment can lead to drug resistance.
- ❖ Follow - up sputum examinations are important and must be done to check progress and cure.
- ❖ Treatment for Tuberculosis is free
- ❖ YOU, the primary care provider can help save many lives!

**DOTS - the key to cure**

